

**Diversity in Nurse Anesthesia Education: Understanding the Perceptions of
Racial-Ethnic Minority Nurse Anesthesia Students**

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Literature Review

Introduction

Nurse anesthesia educational programs are highly competitive, demanding, and have complex curriculums. Once accepted into a program, individuals transition from the role of a registered nurse to a student registered nurse anesthetist (SRNA). The new position places many demands on student's personal and professional life, including loss of income, altered lifestyles, lack of time with family and friends, information overload, and pressure to meet the program's high expectations (Griffin et al., 2017). In addition to the aforementioned challenges, racial-ethnic minority SRNAs face unique challenges. These additional challenges often go unaddressed and unrecognized due to the lack of awareness, understanding, and the inability to relate.

Racial-ethnic minority SRNAs face institutional racism and discriminatory processes affecting recruitment, admission, and retention (Kilburn et al., 2019). Basing admission solely on standardized testing scores, such as the GRE, has been shown to automatically eliminate qualified nonwhite students (Langin, 2019). Racial-ethnic minority students who matriculated from schools that did not emphasize mathematics or sciences may struggle with standardized testing (Kilburn et al., 2019). Additionally, when racial-ethnic minorities are accepted into nursing schools, those students have expressed feelings of alienation, loneliness, and isolation (Ackerman-Barger & Hummel, 2015). These students often describe an absence of acknowledgment that their experiences may be different from white students, a lack of cultural

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awareness from faculty and peers, and a lack of support resources on campus (Ackerman-Barger & Hummel, 2015). Racial-ethnic minority students in Predominantly White Institutions (PWIs) face microaggressions, discrimination, and bias, all of which white students do not have to face during their educational experiences (Carter & McMillian-Bohler, 2020). The obstacles experienced by nonwhite students needs to be acknowledged and addressed.

Background

Historically, the nurse anesthesia workforce has experienced a lack of racial-ethnic minority providers, impacting the diverse population dependent on their services (Gould, 2021). An understanding of the history of racial-ethnic minorities in nurse anesthesia and the concepts of diversity, inclusion, and equity can help to initiate change and eventually decrease health care disparities.

Racial-ethnic minorities have experienced racism and exclusion from professional membership; in the 1930s, nurse anesthetists from diverse backgrounds were not formally accepted into professional nursing organizations, including the American Association of Nurse Anesthetists, nor were they hired by predominantly white institutions (PWI) as faculty members in nursing programs (Gould, 2021).

In 1944, the AANA began to accept membership of racial-ethnic nurse anesthetists (Gould, 2021). Although they were accepted in professional organizations, SRNAs from diverse backgrounds could not partake in clinical rotations in hospitals that served patients from predominantly white communities (Gould, 2021). Upon graduation, racial-ethnic Certified Registered Nurse Anesthetists (CRNAs)were also expected to work in hospitals whose community resembled their racial and ethnic backgrounds (Gould, 2021).

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In the mid-2000s, the nurse anesthesia faculty from diverse backgrounds began teaching in PWI anesthesia programs. In 2013, the essential core value of diversity was added under the leadership of then AANA president, Dennis Bless, CRNA, MS. Mr. Bless also convened an inaugural Diversity and Inclusion in Nurse Education: Excellence in Healthcare Summit (Gould, 2021). In 2016, the AANA Diversity Task Force was formed to address the strategic plan for diversity initiatives (Gould, 2021).

In 2019, there were 124 accredited graduate nurse anesthesia programs, with 116 in PWIs and eight programs in Hispanic serving institutions (Gould, 2021). In 2020, the country's northeast region had one racial-ethnic full-time faculty member, and only 10.9% of nurse anesthetists were from diverse backgrounds. Today, racial-ethnic CRNAs represent 18% of the nurse anesthesia workforce (Zippia, 2021). Due to the lack of diverse faculty members, the recruitment and retention of diverse SRNAs in nurse anesthesia programs has been challenging (Gould, 2021).

The United States Census Bureau reported a population of more than 330 million in 2021 with the following racial and ethnic composition: 65% white and 35% of racial-ethnic backgrounds (U.S. Census Bureau, 2021). The demographic breakdown demonstrates that whites are the majority of the United States' population nationally, regionally, and locally (figures 1, 2, and 3). The CRNA workforce is also predominately comprised of whites (Figure 4). In comparison, the demographic breakdown of undergraduate and graduate nursing students at this mid-sized institution in the Midwest reflects the local demographics (Figures 5, 6, 7, 8, 9, 10, and 11). However, the population is becoming increasingly diverse, and a culturally diverse workforce is needed to provide care for these people (AACN Fact Sheet - Enhancing Diversity in

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the Nursing Workforce, 2019). The nursing and nurse anesthesia workforce does not reflect the diverse national population it serves.

The lack of access to healthcare for people of diverse backgrounds is critical and healthcare providers from all racial backgrounds are needed to be able to provide equal and culturally sensitive care to patients (Kilburn et al., 2019). Communities with diverse residents are four times more likely to experience shortages of healthcare providers and access to healthcare, and racial-ethnic providers are more likely to serve these communities (Kilburn et al., 2019). CRNAs are more likely to provide care in rural hospitals where healthcare access is limited (Kilburn et al., 2019). Without CRNAs, these rural hospitals would not provide the necessary obstetric, surgical, or trauma stabilization services the rural communities need (Kilburn et al., 2019). One way to increase access to these services is by addressing Diversity, Equity, and Inclusion (DEI) in nurse anesthesia educational programs to expand diversity in the workforce and eventually eliminate health disparities (Gould, 2021).

Problem Statement

According to the 2020 Census, the ethnic population in the United States is broken down as follows: White 65%, 16% Hispanic or Latino, 11% black, 5% Asian alone, 0.2% Native Hawaiian, 0.8% American Indian or Alaskan native alone, and 2% two or more races (U.S. Census Bureau, 2021). Based upon these statistics, there is a lack of diversity in the nursing profession. Only 16.8% of all nurses identify as a racial-ethnic minority (Newman & Valdes, 2019). The absence of diversity in the nurse anesthesia profession is even more profound, with only 11% of providers identifying as a racial-ethnic minority (Newman & Valdes, 2019). In addition, only 17% of enrolled SRNAs are of color and 13% of nurse anesthesia faculty identify as the same (Newman & Valdes, 2019)

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In relation to this project, the breakdown of the population at this PWI is demonstrated in Figure 12. U.S. News and World Report created a database to provide students who are interested in finding a university where they would be most likely to encounter a diverse campus population. They used an index to categorize the universities between 0-1 with a number closer to 1 meaning the university is more diverse than not. This university is ranked among the lowest with a diversity index of .42 (Campus Ethnic Diversity, 2022). These statistics clearly depict the underrepresentation of racial-ethnic minorities at this university.

The aim of this project is to highlight the educational experiences of racial-ethnic minority nurse anesthesia students across the country to provide insight for educators at a PWI in the Midwest. Understanding the experiences of nonwhite SRNAs while navigating the educational system will allow for administration and faculty to understand the experiences that students of color have in the nurse anesthesia program and be able to better support them in the categories of mentorship and preceptor relationships. Exploring these experiences may add support to the need for mentorship programs specific to racial-ethnic minorities on campus and promote diversity, equity, and inclusion.

Clinical Relevance

One way to address health disparities in the United States is by increasing healthcare access (Carter & McMillian-Bohler, 2020). Hispanic and Black communities are four times more likely to experience healthcare provider shortages regardless of their income (Cary et al., 2020). The Health Resources and Services Administration (HRSA) Bureau of Health Professions discovered that racial-ethnic minority healthcare providers are more likely to work in underserved communities, urban or rural (Kilburn et al., 2019, Gibbs & Waugaman, 2004). A

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racially diverse nursing workforce would help to address the lack of access to healthcare for underserved populations (Gardner, 2005).

Aim of the Literature Review

We will examine the literature related to the barriers SRNAs from underrepresented backgrounds face in nurse anesthesia educational programs. We will also examine the best practices in addressing these barriers.

The questions guiding the review are:

1. What are the educational experiences of racial-ethnic minority graduate students attending predominantly white institutions?
2. What are the best practices in diversity, equity, and inclusion and how can they be applied to address systemic inequalities in graduate educational programs?

Search Strategy

A literature search was conducted using the following databases: Cumulative Index to Nursing and Allied Health Literature (CINAHL), Eric, PubMed, Google Scholar, ProQuest, AANA Journal, Cochrane Database of Systemic Reviews (CDSR), and U.S. Census Bureau. A university interlibrary loan service was used to access studies where full text was unavailable in the databases. Search limits were added to exclude non-English articles. Articles older than ten years and non-peer reviewed articles were excluded from the literature review. Due to lack of available articles, the search terms were expanded to include other health-program students. The search terms and keywords were placed into three groups; educational experiences of racial-ethnic minority students, minority mentorship programs, and diversity, equity, and inclusion.

Results

The search produced a total of 101 articles. After reviewing abstracts and removing duplicates, 26 articles were deemed most appropriate for this project and are included in this literature review. Most of the reviewed articles utilized qualitative methodology, employing focus groups or open-ended or structured interviews for data collection. The findings were summarized into seven themes: Cultural differences, financial barriers, awareness of faculty, students, and preceptors, mentorship, coping strategies, and critical race theory.

Culture and nursing education

Culture is defined as “a way of perceiving, behaving, and evaluating the world. It provides a blueprint or guide for determining people's values, beliefs, and practices, including those pertaining to health and illness” (Andrew and Boyle, 1999). The values, beliefs, and practices influence how members of a group perceive, process, and react to certain situations.

Immigrants and minorities are expected to ignore or change their cultural beliefs, values, and practices and adopt the American culture to fit into the new country. According to Hassouneh (2008), these expectations also apply in nursing education. The implementation of a Eurocentric culture often places racial-ethnic minority students at a disadvantage (Hassouneh, 2008). Racial-ethnic minority students with different cultures and linguistic backgrounds often experience difficulties in class and during clinical practice where a Eurocentric culture is applied (Hassouneh, 2008). Creating a culturally diverse education curriculum and an environment that is welcoming and accepting would help students of color to thrive (Iheduru-Anderson et al., 2020).

In the three-year project aimed at recruiting and retaining racial-ethnic minority nursing students, Tabi (2016) concluded that all students are culturally unique. Students of color have

beliefs and values that may require unique needs that may impact academic success. Students may encounter language barriers and different accents that may become challenging. Students who speak English as a second language reported having difficulty translating the definitions or the context of words during exams and in the clinical setting (Bristol et al., 2020). Culturally competent and accepting faculty, preceptors, and peers play a crucial part in the success of racial-ethnic minority students (Tabi, 2016).

Financial barriers

Kilburn et al. (2019) reported that limited financial support is the most common barrier for most racial-ethnic minority SRNAs. Didactic and clinical training requires dedication and time that may not allow for full-time or part-time work. First-generation college students are at a higher disadvantage because they may be the primary support for their families (Kilburn et al., 2019). For this reason, most students depend on financial resources provided by their institution. A study conducted by Diefenbeck et al. (2016) reported that nonwhite students had increased stress due to finances compared to their counterparts. When making decisions regarding financial aid, administrators play a vital role in the retention of these students since their financial needs may be different from others (Diefenbeck et al., 2016).

In their project aimed at supporting graduate nursing education students from disadvantaged backgrounds, Ortega et al. (2020) also found that the most common challenge racial-ethnic minority students face is the cost of higher education. Racial-ethnic minority nurses are more likely to serve in underserved communities and have lower earnings than Caucasian nurses, which can also become a barrier when pursuing higher education (Ortega et al., 2020). In their two-year project, Ortega et al. (2020) provided additional financial support and mentorship opportunities to racial-ethnic minority nurses and reported a high retention rate.

Faculty Awareness

The small number of racial-ethnic minority faculty and faculty who are not experienced working with students from diverse backgrounds is another barrier (Nugent et al., 2004.) The approachability of White faculty members when facing sensitive situations may be difficult for students of color. Culturally sensitive faculty who can appropriately handle sensitive situations or provide appropriate referrals when unable to handle the situation are needed (Nugent et al., 2004, Diefenbeck et al., 2016).

Racial-ethnic minority students in the Brooms & Davis (2017) study reported that having nonwhite faculty was invaluable and contributed to their academic success. Students reported that they were more likely to connect both inside and outside the classroom with a faculty of the same race. Having a faculty mentor who is a racial-ethnic minority provided a sense of belonging and contributed to their social maturation and development (Brooms & Davis, 2017).

Nugent et al. (2004) and Diefenbeck et al. (2016) stated that the academic success of students of color requires faculty development of cultural awareness and sensitivity. A faculty that understands the different learning styles of nonwhite students may provide teaching strategies that impact the student's understanding of information (Nugent et al. 2004).

In their study, DeBrew et al. (2014) found that during timed didactic evaluations (examinations), students whose primary language is not English are held up to the same standards as those with English as a primary language. These students risk running out of time and having lower grades. During class lectures, the content may be relayed so fast that students do not have enough time to translate it into their first language, understand, and take adequate notes (DeBrew et al., 2014). During group activities, students often do not have enough time to translate in their first language, process, and answer questions (DeBrew et al., 2014).

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Gould (2021) found that the lack of a diverse faculty contributes to the lack of diversity in the nurse anesthesia student population. This leads to racial-ethnic minority students feeling isolated and experiencing microaggressions in the classroom and clinical arena (Gould, 2021).

Holland (2015) found that "Whiteness" inhibited the understanding and teaching of race and racism. Nursing faculty need to educate themselves on race and systemic racism and put their knowledge into action. Gillespie et al. (2013) suggest that until race and racism are discussed, actions leading to institutional racism and white privilege prevail and further perpetuate an unwelcoming and hostile environment for minorities.

Bristol et al. (2020) stated that nursing faculty are often unprepared and unable to address challenges that diverse students may face. Additionally, Bristol et al. (2020) state that to increase the diversity within a university, faculty must be well-versed in the resources available to help students achieve academic success. In his integrative review of 17 studies, Loftin et al. (2012) found that non-racial-ethnic minority faculty did not understand the importance of having faculty that look like nonwhite students and can relate to their specific experiences.

Peer Awareness

Most anesthesia students are White, and with that comes privilege. Privilege is not entirely financially based, but because of their skin color, they are excluded from inequitable treatment and offered protections (Murray & Loyd, 2021). Students of color reported that in group settings, fellow students would try to explain what the person of color (POC) was saying as if the non-POC classmates would not understand if it was not translated. This act calls into question the intelligence of the POC (Hall, 2012).

In his study, Harper (2006) interviewed 32 high-achieving racial-ethnic minority students from six PWI assessing the importance of peer relationships in the academic success of African

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American male students. The students reported that peer relationships and support played a significant role in their academic success (Harper,2006). The subjects also reported that having meaningful relationships with their peers aided in adjustment to college (Harper, 2006).

Peer relationships can positively affect students' learning. Peers who share the same academic experiences form strong bonds, and they create a safe environment where they can share confidential information and emotional and academic concerns. Peer relationships can also enhance students' learning by forming study groups and tutoring sessions (Brooms & Davis, 2017). In their study, Brooms & Davis (2017) examined the role of peer bonding and faculty mentors in the academic success of racial-ethnic minority male students in PWI. Students reported that they were at increased risk of academic failure because of isolation and segregation, so they decided to reject the dominant university culture and created their subculture of racial-ethnic minority students. The subjects relied on each other for academic, social, and psychological support. The students reported that the subculture played a significant role in their academic success (Brooms & Davis, 2017).

Preceptor Awareness

During clinical practice, preceptors who are not culturally sensitive may evaluate students according to the dominant culture (DeBrew et al., 2014). In a study conducted by DeBrew et al. (2014), students often felt that they were forced to abandon their culture and adhere to the dominant culture to be accepted. Preceptors play a prominent role in the molding of students. Ensuring that preceptors are aware of their own biases and are educated on cultural awareness is imperative in ensuring a safe, fair, and judgment-free learning environment for students (DeBrew et al., 2014).

Mentorship

Racial-ethnic minorities often feel segregated in institutions that are predominantly White. Nugent et al. (2004) found that racial-ethnic minority students felt underrepresented, isolated, alienated, frustrated, overlooked, or misunderstood because of their race or ethnicity. Additionally, nonwhite students reported PWIs as unwelcoming and uncomfortable (Nugent et al., 2004). Students who perceived themselves as different were challenged in being successful academically and in social situations (Bristol et al., 2020). Students felt that when they did not see someone who looked like them, they doubted their success in nursing (Bristol et al., 2020).

Tabi (2016) initiated a nursing workforce diversity program to recruit and retain racial-ethnic minority nursing students and found that students thrive in an environment that is welcoming, nurturing, culturally diverse, and supports academic success. Retention rates increase when faculty and peers provide psychological safety, a sense of belonging, and support for self-esteem and self-actualization (Tabi, 2016).

Mentorship is a lasting relationship between two people in which one person is more experienced in a discipline. The main objective of the relationship is to preserve the novice's well-being, advancement, and progress (Botma et al., 2013). A successful mentorship requires an open and relaxed relationship with mutual trust (Botma et al., 2013, Nugent et al., 2004). In their integrative review of eleven studies, Wong et al. (2016) concluded that students involved in mentorship programs are more likely to improve their academic, social, and professional development and mental health. Students also experience added benefits from peer mentors who are close in similar age groups and have similar experiences as the mentee.

In their article, Nugent et al. (2004) explained the need for a different mentorship strategy specifically geared towards the retention and success of racial-ethnic minority students. A

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mentorship model for the retention of nonwhite students was implemented by a nursing school for six years with high retention rates. The mentorship model focuses on a mentor and mentee relationship and addresses the different barriers nonwhite students face during their academic journey. The mentorship model involved:

- Academic support from faculty, preceptors, and mentors to students who are at risk of academic failure;
- An increase in financial support;
- Augmented self-development by creating a student support groups for racial-ethnic minorities;
- And professional or leadership development by allowing racial-ethnic minority students to interact with practicing nonwhite providers (Nugent et al., 2004).

In the three-year nursing workforce diversity project aimed to recruit and retain racial-ethnic minority nursing students, Tabi (2016) found that students had high success rates when mentored by both their faculty and peers. White faculty and culturally sensitive peer mentors had equally positive effects as racial-ethnic minority mentors (Tabi, 2016). Nonwhite students who received mentorship were motivated to become peer mentors to other students, and they formed a student nursing association aimed at mentoring racial-ethnic minority students. This study had a 93% retention rate with a 93% passing rate on the national certification exam (Tabi, 2016).

In their project aimed to support graduate racial-ethnic minority students, Ortega et al. (2020) initiated a mentorship program with nonwhite faculty as mentors. Each student received individualized mentoring throughout their education journey. The students ranked their desired mentors after social interactions with the faculty mentors. The project resulted in a high retention rate and a high first-pass rate on the certification exam (Ortega et al., 2020).

Having an ally who understands their experiences and who can train racial-ethnic minority SRNAs on how to handle the challenges they encounter would increase resilience and help form healthy coping skills (Carter & McMillian-Bohler, 2020). A mentorship program for nonwhite SRNAs can provide accessibility to peers who have encountered the same experiences and can help to navigate those tough spaces (Ciaramella, 2021 and Matthews et al., 2022).

Coping strategies

In their study exploring microaggression in medical school training, Espaillat et al. (2019) found that racial-ethnic and Caucasian female medical students reported experiencing microaggression during their training. Microaggressions can be defined as subtle snubs, slights, or insults. These students described microaggression related to sexism, skin color, ethnicity, religion, and sexual orientation (Espaillat et al., 2019). Other participants in this study, however, denied the existence of microaggression (Espaillat et al., 2019). Some participants explained that microaggression was a “way of perpetuating the culture of victimhood” (Espaillat et al., 2019). Other participants stated that students who reported microaggressions were overly sensitive (Espaillat et al., 2019).

Carter and McMillian-Bohler (2020) found that minorities experience higher rates of microaggressions than their fellow White counterparts. These constant experiences of microaggressions lead to depression and anxiety (Carter and McMillian-Bohler, 2020). Additionally, experiencing frequent microaggressions can increase cortisol and hypertension (Hall, 2012). Therefore, nursing educators need to prepare students for situations where they may be exposed to these microaggressions, teach strategies to manage those situations, and provide safe spaces for students to report mistreatment.

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Additionally, neglecting to address clinical training sites about microaggression incidents does nothing to stop them from reoccurring. Policies need to be established on how to address student concerns regarding their treatment at clinical sites and not simply dismiss the students' concerns and mistreatment. Ackerman-Barger & Hummel (2015) found that participants in their study were expected to put their heads down and tolerate, accept, and adjust to the system where they were faced with racism, discrimination, and unkind behaviors to continue their educational journey.

Ackerman-Barger et al. (2020) also explain that microaggressions are a form of unconscious bias because aggression might seem harmless or insignificant to the aggressor who does not share the same culture with the target. The target may feel conflicted on how to respond to the aggression because the aggressor may not be aware that the act was harmful. Ackerman-Barger et al. (2020) conducted a study on the perceptions of racial-ethnic minority medical and nursing students. The primary themes that emerged included: students felt devalued by microaggressions and; students identified how microaggressions influenced their learning, academic performance, and well-being (p.759). The subjects reported that microaggressions minimized their perspectives and contributions in class. These students reported that their peers and faculty had low expectations and were surprised by their academic ability. During class activities, students' perspectives were minimized, so the students felt invisible during conversations. As a result, they withdrew from class activities and social interactions (Ackerman-Barger et al.,2020).

Diversity, Equity, and Inclusion

Diversity references a variety of characteristics that define who a person is. *Inclusion* represents environmental and organizational cultures in which all people are embraced and

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respected despite their differences. *Equity* is interrelated with diversity and inclusion. Equity is the ability to recognize economic, social, and personal differences and create equal and fair distribution of resources or knowledge to allow individuals to fully participate in society (Kranich, 2001).

Creating a diverse and inclusive environment leads to numerous benefits. This leads to instructors, students, and administrators recognizing the importance of diversity in all aspects of education. As a result, student academic success increases, and institutions become more inclusive in the recruitment of diverse learners and faculty (Huerta et al., 2017).

Diversity, Equity, and Inclusion Best Practice Recommendations

The associates of Community Colleges Trustees (2015) and California Community Colleges Chancellor's Office (2019) provide guidelines on how higher education institutions can promote Diversity, Equity, and Inclusion (DEI). One way to increase diversity is to have a diverse faculty (Associates of Community Colleges Trustees, 2015; California Community Colleges Chancellor's Office, 2019). A racially diverse faculty positively impacts student recruitment, retention, and education outcomes (Associates of Community Colleges Trustees, 2015; California Community Colleges Chancellor's Office, 2019). A diverse faculty or staff also reduces the likelihood of implicit bias (Associates of Community Colleges Trustees, 2015; California Community Colleges Chancellor's Office, 2019). Faculty from racial-ethnic backgrounds readily teach or advise students on social justice issues they might have experienced themselves. In turn, students are more prepared to address the issues of social justice both during academic training and after graduation (Associates of Community Colleges Trustees, 2015; California Community Colleges Chancellor's Office, 2019). A diverse faculty also provides multicultural teaching strategies that encourage the participation of students from

diverse backgrounds (Associates of Community Colleges Trustees, 2015; California Community Colleges Chancellor's Office, 2019).

According to the Associates of Community Colleges Trustees (2015) and Matthews et al. (2022), enhancing fairness and inclusion in the education system is a way to increase equity. Institutions have a crucial role in avoiding discrimination and supporting disadvantaged students by providing equitable access to resources, having an adaptive leadership that addresses DEI issues, and providing a welcoming environment where all diverse students can succeed. Equity should ensure each student receives what they need to be successful. Equity also involves a constant reexamination and adjustment of what is not working and supporting what is working (Associates of Community Colleges Trustees, 2015).

Discussion

The studies reviewed paint a picture of the different barriers that racial-ethnic minority students experience during their nursing education. The results of the literature review indicate that racial-ethnic minorities face challenges related to a lack of resources, understanding, diversity, equity, and inclusion. The challenges they face are often unaddressed and unspoken. The successful completion of higher education is complicated by these barriers in addition to typical challenges students face in general.

The findings from this literature review have implications for program faculty and administrators, and preceptors. A program that is committed to increasing retention of diverse students can significantly reduce the barriers they encounter. Research shows that students that are ethnically diverse are more likely to work in underserved communities upon graduation (Kilburn et al., 2019). Increasing diversity, equity, and inclusion in nurse anesthesia programs will help to decrease the gap in health access and health disparities amongst the most vulnerable

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populations (Gould, 2021). Having more students who are ethnically diverse will allow for a better representation of Americas diverse population. Representation and inclusivity in healthcare are paramount as they lead to a more diverse and culturally sensitive healthcare team. Having a health care provider and patient who are ethnically in concordance was shown to be important to nonwhite patients (Terlizzi et al., 2019). These patients wanted a healthcare provider who understood their culture, but most did not have access to such a provider. Increasing the number of diverse students in a nurse anesthesia program can also increase the amount of diverse faculty in nurse anesthesia programs. Work in this area can indirectly increase the diversity in nurse anesthesia and healthcare in general.

Therefore, the experiences of minorities should continue to be explored and efforts be made to increase diversity, equity, and inclusion in nurse anesthesia programs with an emphasis on the importance of increasing representation and support resources.

Much of the literature focuses on undergraduate nursing students. There is a gap in the literature regarding the relationship between racial-ethnic minority mentorship in nurse anesthesia programs and a decrease in barriers for nonwhite SRNAs. To recruit and retain a diverse student body of nursing students mentorship is vital (Nugent et al., 2004). Having mentorship from racial-ethnic minority nurse leaders aids in decreasing the barriers to successful completion of the program that exists for nonwhite students (Nugent et al., 2004).

Research indicates that having a mentorship program that works to reduce the barriers nonwhite students face is essential to success, especially at a PWI (Nugent et al.,2004). Additionally, DeBrew et al (2014) found that when preceptors are aware of their own bias and are culturally competent, they were able to foster a positive learning environment for students. Our project will allow for administration and faculty to understand the experiences that students

of color have in the nurse anesthesia program and be able to better support them in the categories of mentorship and preceptor relationships.

Conclusion

The literature review demonstrates the need for more high-quality research related to the experiences of nonwhite nurse anesthesia students. The literature focuses mostly on nonwhite undergraduate nursing students and the issues surrounding their experiences and lack of diversity in those programs. There is a gap in research regarding nurse anesthesia students and their experiences in the didactic and clinical settings. Research shows that diversity and inclusion are necessary to provide high-quality nursing education, but there is little research that guides universities in increasing DEI in nurse anesthesia programs. Additionally, there is evidence that a more diverse nursing population is needed to better serve the needs of an ever-increasing diverse population, however, there is little research on how to increase the number of nonwhite CRNAs.

More information needs to be collected from nonwhite nurse anesthesia students about their experiences, but this could be challenging as some may be in fear of repercussion. A nationwide survey may be beneficial in gauging the experiences of nonwhite SRNAs in didactic and clinical components of their program. Survey results can be used to understand the deficiencies of nurse anesthesia programs and clinical sites in meeting the learning needs and fostering an inclusive environment for nonwhite students. These results may demonstrate a need for programmatic changes, may foster the development of educational tools for nurse anesthesia schools to help in increasing DEI, and may support the need for racial-ethnic minority mentorship programs. Future DNP projects could focus on partnering with diversity organizations to increase DEI in nurse anesthesia programs and focus on establishing and evaluating racial-ethnic minority mentorship programs.